



SEQUENCE LISTING

<110> Merck Patent GmbH

<120> Variants of the major allergen Phl p 1 from timothy grass

<130> P 02/129

<140> EP 02 018 157.4

<141> 2002-08-19

<160> 2

<170> PatentIn version 3.1

<210> 1

<211> 723

<212> DNA

<213> Phleum pratense

<220>

<221> CDS

<222> (1)..(720)

<223>

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1			5					10						15		

aag	tgg	ctg	gac	gcg	aag	agc	acc	tgg	tac	ggc	aag	ccg	acg	gcc	gcc	96
Lys	Trp	Leu	Asp	Ala	Lys	Ser	Thr	Trp	Tyr	Gly	Lys	Pro	Thr	Ala	Ala	
		20						25					30			

ggt	ccc	aag	gac	aac	ggc	ggc	gcg	tgc	ggg	tac	aag	gac	gtg	gac	aag	144
Gly	Pro	Lys	Asp	Asn	Gly	Gly	Ala	Cys	Gly	Tyr	Lys	Asp	Val	Asp	Lys	
		35					40					45				

ccc	ccg	ttc	agc	ggc	atg	acc	ggc	tgc	ggc	aac	acc	ccc	atc	ttc	aag	192
Pro	Pro	Phe	Ser	Gly	Met	Thr	Gly	Cys	Gly	Asn	Thr	Pro	Ile	Phe	Lys	
		50				55					60					

tcc	ggc	cgg	ggc	tgc	ggc	tcc	tgc	ttc	gag	atc	aag	tgc	acc	aag	ccc	240
Ser	Gly	Arg	Gly	Cys	Gly	Ser	Cys	Phe	Glu	Ile	Lys	Cys	Thr	Lys	Pro	
65				70					75					80		

gag	gcc	tgc	tcc	ggc	gag	ccc	gtg	gtg	gtc	cac	atc	acc	gac	gac	aac	288
Glu	Ala	Cys	Ser	Gly	Glu	Pro	Val	Val	Val	His	Ile	Thr	Asp	Asp	Asn	
			85					90						95		

gag	gag	ccc	atc	gcc	gcg	tac	cac	ttc	gac	ctc	tcc	ggc	atc	gcg	ttc	336
Glu	Glu	Pro	Ile	Ala	Ala	Tyr	His	Phe	Asp	Leu	Ser	Gly	Ile	Ala	Phe	
		100						105					110			

ggg	tcc	atg	gcc	aag	aag	ggc	gac	gag	cag	aag	ctg	cgc	agc	gcc	ggc	384
Gly	Ser	Met	Ala	Lys	Lys	Gly	Asp	Glu	Gln	Lys	Leu	Arg	Ser	Ala	Gly	
		115					120					125				

gag	gtg	gag	atc	cag	ttc	cgc	cgc	gtc	aag	tgc	aag	tac	ccg	gag	ggc	432
Glu	Val	Glu	Ile	Gln	Phe	Arg	Arg	Val	Lys	Cys	Lys	Tyr	Pro	Glu	Gly	
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acc aag gtg acc ttc cac gtg gag aag ggg tcc aac ccc aac tac ctg	480
Thr Lys Val Thr Phe His Val Glu Lys Gly Ser Asn Pro Asn Tyr Leu	
145 150 155 160	

gcg ctg ctg gtg aag ttt gtc gcc ggc gac ggc gac gtg gtg gcg gtg	528
Ala Leu Leu Val Lys Phe Val Ala Gly Asp Gly Asp Val Val Ala Val	
165 170 175	

gac atc aag gag aag ggc aag gac aag tgg atc gcg ctc aag gag tcg	576
Asp Ile Lys Glu Lys Gly Lys Asp Lys Trp Ile Ala Leu Lys Glu Ser	
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tgg gga gcc atc tgg agg atc gac acc ccg gag gtg ctc aag ggc ccc	624
Trp Gly Ala Ile Trp Arg Ile Asp Thr Pro Glu Val Leu Lys Gly Pro	
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ttc acc gtc cgc tac acc acc gag ggc ggc acc aag ggc gag gcc aag	672
Phe Thr Val Arg Tyr Thr Thr Glu Gly Gly Thr Lys Gly Glu Ala Lys	
210 215 220	

gac gtc atc ccc gag ggc tgg aag gcc gac acc tgc tac gag tcc aag	720
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 <213> Phleum pratense

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35 40 45

Pro Pro Phe Ser Gly Met Thr Gly Cys Gly Asn Thr Pro Ile Phe Lys
50 55 60

Ser Gly Arg Gly Cys Gly Ser Cys Phe Glu Ile Lys Cys Thr Lys Pro
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Glu Ala Cys Ser Gly Glu Pro Val Val Val His Ile Thr Asp Asp Asn
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Glu Glu Pro Ile Ala Ala Tyr His Phe Asp Leu Ser Gly Ile Ala Phe
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Gly Ser Met Ala Lys Lys Gly Asp Glu Gln Lys Leu Arg Ser Ala Gly

115

120

125

Glu Val Glu Ile Gln Phe Arg Arg Val Lys Cys Lys Tyr Pro Glu Gly
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Thr Lys Val Thr Phe His Val Glu Lys Gly Ser Asn Pro Asn Tyr Leu
145 150 155 160

Ala Leu Leu Val Lys Phe Val Ala Gly Asp Gly Asp Val Val Ala Val
165 170 175

Asp Ile Lys Glu Lys Gly Lys Asp Lys Trp Ile Ala Leu Lys Glu Ser
180 185 190

Trp Gly Ala Ile Trp Arg Ile Asp Thr Pro Glu Val Leu Lys Gly Pro
195 200 205

Phe Thr Val Arg Tyr Thr Thr Glu Gly Gly Thr Lys Gly Glu Ala Lys
210 215 220

Asp Val Ile Pro Glu Gly Trp Lys Ala Asp Thr Cys Tyr Glu Ser Lys
225 230 235 240